

Notice of Allowability

Application No.

10/560,680

Examiner

Peter J. Macchiarolo

Applicant(s)

DE MAN ET AL.

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 12/14/2005.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 08/24/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Art Unit: 2879

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 08/24/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

35 USC § 112

The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claim 1 recites the limitations, “discharge means for maintaining a discharge in the discharge space” and “releasing means for the controlled release of mercury vapor from the amalgam.” These claim limitations both meet the three prong analysis as per MPEP 2181 and consequently are being treated under 35 U.S.C. 112, sixth paragraph.

The Examiner has determined that the specification does indeed support these claims limitations which have invoked 35 U.S.C. 112, sixth paragraph by properly setting forth an adequate disclosure showing what is meant by the claim language. Applicant has defined the claim language as follows:

Art Unit: 2879

The disclosure at page 7, lines 9-18 define the **discharge means** as a winding of tungsten covered with an electron-emitting substance.

The disclosure at page 11, lines 19-32 defines the **releasing means** as comprising a resilient means, a closing means, an ordinary spring, a container, a flaring portion, and a ferrule which all operates in cooperation so that the resilient means actuates, thereby operating the closing means.

The disclosure at page 11, line 20 coupled with the disclosure at page that the **resilient means** is a spring made of a shape-memory alloy.

The disclosure at page 11, lines 30-32 recites the **closing means** is a metal, glass or ceramic ball (or other geometry) located approximately in the middle of the releasing means which enables communication between the amalgam in the container and the discharge space.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Frank Keegan on 09/21/06.

The application has been amended as follows:

Claim 1 (Currently amended) A low-pressure mercury vapor discharge lamp comprising: a light-transmitting discharge vessel (10) enclosing, in a gastight manner, a discharge space (13) provided with a filling of mercury and a rare gas, the discharge vessel (10) comprising discharge

Art Unit: 2879

means for maintaining a discharge in the discharge space (13), the discharge vessel (10) being provided with a container (3) comprising an amalgam (2), the container (3) being provided with releasing means (4) for the controlled release of mercury vapor from the amalgam (2), the releasing means (4) being open during lamp operation when the temperature of the amalgam is lower than a predetermined temperature, the releasing means (4) being substantially closed when, during lamp operation, the temperature of the amalgam (2) becomes higher ~~than a~~ than the pre-determined temperature.

Allowable Subject Matter

Claims 1-12 are allowed.

The following is an examiner's statement of reasons for allowance:

The closest prior art, USPN 6456004 to Johnson et al ("Johnson"), which was cited at pages 2 and 3 of the instant specification, discloses a low-pressure mercury vapor discharge lamp having a container therein. The container changes the internal mercury vapor pressure via an opening/closing function (actuating means) when the lamp is turned on or off, respectively. For example, it can be seen in figure 3 of Johnson that the bimetal members are directly affected by the radiated heat of the adjacent *filament*, and will flex according to the filament's, i.e. the lamp's on/off state.

In contrast, Applicant's claimed invention regulates the internal mercury vapor pressure via a releasing means based on the temperature of the *amalgam*, not the filament, i.e. Applicant's releasing means may be closed during the lamp's on state (as shown for example as curve "c" in figure 4). Consequently, Johnson's actuating means is not a functional equivalent of Applicant's

Art Unit: 2879

releasing means, since the bimetal actuator moves in response to the on/off state of the lamp, while Applicant's releasing means is responsive to the temperature of the amalgam. Furthermore, Johnson does not motivate one of ordinary skill in the art to arrive at this modification.

The Examiner notes that USPN 6310437 to Blau ("Blau") et al functions the same as Johnson and the above discussion also applies to Blau, i.e. Blau's amalgam holder is not a functional equivalent of Applicant's releasing means for the controlled release of mercury vapor from the amalgam.

Therefore, regarding independent claim 1, the prior art fails to teach or suggest a low pressure mercury vapor discharge lamp with the releasing means for the controlled release of mercury vapor from the amalgam being open during lamp operation when the temperature of the amalgam is lower than a predetermined temperature, the releasing means being substantially closed when, during lamp operation, the temperature of the amalgam becomes higher than the pre-determined temperature, in combination with the remaining limitations of the claims.

Claims 2-12 are allowable due to their dependency.

Any comments considered necessary by the Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of reasons for Allowance."

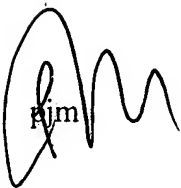
Art Unit: 2879

Conclusion

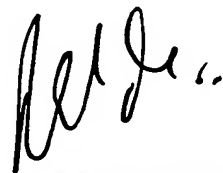
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PJM



**NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**